NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

WASTE MANAGEMENT SYSTEM

(No.)

CODE 312

DEFINITION

A planned system in which all necessary components are installed for managing liquid and solid waste, including runoff from concentrated waste areas, in a manner that does not degrade air, soil, or water resources.

SCOPE

This standard establishes the minimum acceptable requirements for planning and operating waste management systems. It does not apply to the design and installation of the system components.

PURPOSE

To manage waste in rural areas in a manner that prevents or minimizes degradation of air, soil, and water resources and protects public health and safety. Such systems are planned to preclude discharge of pollutants to surface or ground water and to recycle waste through soil and plants to the fullest extent practicable.

CONDITIONS WHERE PRACTICE APPLIES

General

This practice applies where: (1) waste is generated by agricultural production or processing; (2) waste from municipal and industrial treatment plants is used in agricultural production; (3) all practice components necessary to make a complete system are specified, and (4) soil, water, and plant resources are adequate to properly manage the waste.

State Laws

All state and local laws, rules, and regulations governing waste management, pollution abatement, health and safety shall be strictly adhered to. The owner or operator shall be responsible for securing all required permits and for performing in accordance with such laws and regulations.

Approvals

To obtain approval from the Nebraska Department of Environmental Control, the owner or operator of the enterprise must submit to the Department satisfactory evidence that waste from his operation will not pollute the waters of the State of Nebraska. This evidence may be in the form of plans and specifications signed by a registered professional engineer or a properly completed Data Sheet for Livestock Waste Control Facilities signed by the owner and his technical advisor (See National Engineering Manual 501.03(6)).

SYSTEM PLANNING

General

The term waste as used here includes both liquid and solid waste, waste-water used in processing, and polluted runoff such as that runoff from a feedlot. A waste management system for a given enterprise shall include those components necessary to properly manage waste and prevent degradation of air, water, soil and plant resources. A system may consist of a single component such as a diversion or may consist of a number of components. Components shall not be installed until an overall waste management system has been planned.

System Components

Components of complete waste management systems may include but are not limited to:

Debris Basin
Dike
Diversion
Fencing
Filter Strips
Grassed Waterway or Outlet
Irrigation System
Irrigation Water Conveyance
Pond Sealing or Lining
Subsurface Drain
Surface Drain
Waste Storage Pond
Waste Storage Structure
Waste Treatment
Waste Utilization

Design criteria for individual components shall be in accordance with standards contained in Field Office Technical Guide. Components not included in Field Office Technical Guide shall be consistent with sound engineering principles.

Planning Considerations

- Waste should be utilized to the fullest extent possible by recycling through soil and plants. Where there is very little land available, treatment may be necessary, using practices such as lagoons and oxidation ditches. Foreign drainage should be excluded from concentrated waste areas to the fullest practical extent.
- Manure shall be collected and safely spread on land, treated, or stored until it can be safely spread. Adequate storage must be provided to allow spreading during favorable weather and at times compatible with crop management and available labor.
- Polluted runoff and seepage from concentrated waste areas shall be intercepted and directed to storage or treatment facilities for future disposal, or directly applied to land in an acceptable manner.
- Wastewater from processing shall be collected and directly applied, stored, or treated before utilization.
- Adequate drainage, erosion control, and other soil and water management practices shall be incorporated to prevent system related problems.
- The overall system shall include sufficient land for proper utilization or disposal of waste at locations times, times, rates, and volumes which maintain desirable water, soil, plant, and other environmental conditions. Appropriate waste handling equipment shall be available for effective operation of the system.
- The system should be located outside of major viewsheds to conserve visual resources. Vegetative screens and other methods shall be provided as appropriate to improve visual conditions.

Sequence of Installation

System components shall be planned and installed in a sequence that each will function as intended without creating a hazard to other components, the overall system, or safety of animals or man.

Safety

Safety features and devices shall be included in waste management systems as appropriate to protect animals and humans from drowning, dangerous gases, and other hazards. Fencing shall be provided as necessary to prevent livestock and others from using facilities for other than the intended purposes.

SYSTEM OPERATION

The owner or operator is responsible for the operation and maintenance of the system. A written operation plan shall be prepared with the operator for his use, and approved by the Nebraska Department of Environmental Control. This should provide specific details as to the operation of each component. It should include:

- Timing, rates, volumes, and locations for application of waste . Where appropriate, include the approximate number of trips for hauling equipment and estimated time required.

- Minimum and maximum operation levels for storage and treatment practices. Include other operations specific to the practice, such as estimated frequency of solids removal.
- Safety warnings, particularly where there are dangers from drowning or poisonous or explosive gases.
- Maintenance requirements for each component of the system.

PLANS AND SPECIFICATIONS

Plans and specifications for waste management systems shall be in keeping with this standard and standards for individual system components.